APPENDIX B TO SUBPART B OF PART 431—UNIFORM TEST METHOD FOR MEASURING NOMINAL FULL LOAD EFFICIENCY OF ELECTRIC MOTORS

1. *Definitions.*

Definitions contained in §§431.2 and 431.12 are applicable to this appendix.

2. *Test Procedures.*

Efficiency and losses shall be determined in accordance with NEMA MG1–1993 with Revisions 1 through 4, paragraph 12.58.1, "Determination of Motor Efficiency and Losses," (Incorporated by reference, see §431.15) and either:

(1) CSA International (or Canadian Standards Association) Standard C390–93 Test Method (1), (Incorporated by reference, see §431.15), *Input-Output Method With Indirect Measurement of the Stray-Load Loss and Direct Measurement of the Stator Winding (I^2R), Rotor Winding (I^2R), Core and Windage-Friction Losses*, or

(2) IEEE Standard 112–1996 Test Method B, *Input-Output With Loss Segregation*, (Incorporated by reference, see §431.15) with IEEE correction notice of January 20, 1998, except as follows:

(i) Page 8, subclause 5.1.1., *Specified temperature*, the introductory clause does not apply. Instead the following applies:

The specified temperature used in making resistance corrections should be determined by one of the following (Test Method B only allows the use of preference (a) or (b).), which are listed in order of preference.

(ii) Page 17, subclause 6.4.1.3., *No-load test*, the text does not apply. Instead, the following applies:

See 5.3 including 5.3.3, the separation of core loss from friction and windage loss. Prior to making this test, the machine shall be operated at no-load until the input has stabilized.

(iii) Page 40, subclause 8.6.3, *Termination of test*, the third sentence does not apply. Instead, the following applies:

For continuous rated machines, the temperature test shall continue until there is 1 °C or less change in temperature rise over a 30-minute time period.

(iv) Page 47, at the top of 10.2 form B, immediately after the line that reads "Rated Load Heat Run Stator Winding Resistance Between Terminals," the following additional line applies:

Temperature for Resistance Correction (t_s) = – °C (See 6.4.3.2).

(v) Page 47, at the bottom of 10.2 Form B, after the first sentence to footnote t_t, the following additional sentence applies:

The values for t_s and t_t shall be based on the same method of temperature measurement, selected from the four methods in subclause 8.3.

(vi) Page 47, at the bottom of 10.2 Form B, below the footnotes and above "Summary of Characteristics," the following additional note applies:

NOTE: The temperature for resistance correction (t_s) is equal to [(4) – (5) + 25 °C].

(vii) Page 48, item (22), the torque constants "k = 9.549 for torque, in N·m" and "k = 7.043 for torque, in 1bf·ft" do not apply. Instead, the following applies:

"k_2 = 9.549 for torque, in N·m" and "k_2 = 7.043 for torque, in 1bf·ft."

(viii) Page 48, at the end of item (27), the following additional reference applies:

"See 6.4.3.2."

(ix) Page 48, item (29). "See 4.3.2.2, Eq. 4," does not apply. Instead the following applies:

Is equal to (10)·[k_1 + (4) – (5) + 25 °C] / [k_1 + (7)], see 6.4.3.3."

3. *Amendments to test procedures.*

Any revision to IEEE Standard 112–1996 Test Method B with correction notice of January 20, 1998, to NEMA Standards Publication MG1–1993 with Revisions 1 through 4, or to CSA Standard C390–93 Test Method (1), subsequent to promulgation of this appendix B, shall not be effective for purposes of test procedures required under Part 431 and this appendix B, unless and until Part 431 and this appendix B are amended.

APPENDIX C TO SUBPART B OF PART 431—COMPLIANCE CERTIFICATION

Certification of Compliance With Energy Efficiency Standards for Electric Motors

(Office of Management and Budget Control Number: 1910–5104. Expires 09/30/2007)

1. Name and Address of Company (the "company"):

_____

_____

_____

_____

2. Name(s) to be Marked on Electric Motors to Which this Compliance Certification Applies:

_____

_____

_____

_____

3. If manufacturer or private labeler wishes to receive a unique Compliance Certification number for use with any particular brand name, trademark, or other label name, fill out the following two items:

A. List each brand name, trademark, or other label name for which the company requests a Compliance Certification number:

_____

_____

_____

B. List other name(s), if any, under which the company sells electric motors (if not listed in item 2 above):

_____

Submit by Certified Mail to: U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, Building Technologies (EE–2J), Forrestal Building, 1000 Independence Avenue, SW., Washington, DC 20585–0121.

This Compliance Certification reports on and certifies compliance with requirements contained in 10 CFR Part 431 (Energy Conservation Program for Certain Commercial and Industrial Equipment) and Part C of the Energy Policy and Conservation Act (Pub. L. 94–163), and amendments thereto. It is signed by a responsible official of the above named company. Attached and incorporated as part of this Compliance Certification is a Listing of Electric Motor Efficiencies. For each rating of electric motor* for which the Listing specifies the nominal full load efficiency of a basic model, the company distributes no less efficient basic model with that rating and all basic models with that rating comply with the applicable energy efficiency standard.

*For this purpose, the term "rating" means one of the 113 combinations of an electric motor's horsepower (or standard kilowatt equivalent), number of poles, and open or enclosed construction, with respect to which § 431.25 of 10 CFR Part 431 prescribes nominal full load efficiency standards.

Person to Contact for Further Information:

Name: _____

Address: _____

_____

_____

_____

Telephone Number: _____

Facsimile Number: _____

If any part of this Compliance Certification, including the Attachment, was prepared by a third party organization under the provisions of 10 CFR 431.36, the company official authorizing third party representations:

Name: _____

Address: _____

_____

_____

_____

Telephone Number: _____

Facsimile Number: _____

Third Party Organization Officially Acting as Representative:

Third Party Organization: _____

Responsible Person at that Organization: _____

Address: _____

_____

_____

_____

Telephone Number: _____

Facsimile Number: _____

All required determinations on which this Compliance Certification is based were made in conformance with the applicable requirements in 10 CFR Part 431, subpart B. All information reported in this Compliance Certification is true, accurate, and complete. The company is aware of the penalties associated with violations of the Act and the regulations thereunder, and is also aware of the provisions contained in 18 U.S.C. 1001, which prohibits knowingly making false statements to the Federal Government.

Signature: _____

Date: _____

Name: _____

Title: _____

Firm or Organization: _____

ATTACHMENT TO CERTIFICATION OF COMPLIANCE WITH ENERGY EFFICIENCY STANDARDS FOR ELECTRIC MOTORS: LISTING OF ELECTRIC MOTOR EFFICIENCIES

Date: _____

Name of Company: _____

_____

Rating of electric motor			Least efficient basic model—(model numbers(s))	Nominal full load efficiency
Motor horsepower/kilowatts	Number of poles	Open or enclosed motor		
1 or .75	6	Open		
1 or .75	4	Open		
1 or .75	6	Enclosed		
1 or .75	4	Enclosed		
1 or .75	2	Enclosed		
1.5 or 1.1	6	Open		
1.5 or 1.1	4	Open		
1.5 or 1.1	2	Open		
1.5 or 1.1	6	Enclosed		
1.5 or 1.1	4	Enclosed		
1.5 or 1.1	2	Enclosed		
Etc.	Etc.	Etc.		

NOTE: Place an asterisk beside each reported nominal full load efficiency that is determined by actual testing rather than by application of an alternative efficiency determination method. Also list below additional basic models that were subjected to actual testing.

Basic Model means all units of a given type of electric motor (or class thereof) manufactured by a single manufacturer, and which (i) have the same rating, (ii) have electrical design characteristics that are essentially identical, and (iii) do not have any differing physical or functional characteristics that affect energy consumption or efficiency.

Rating means one of the 113 combinations of an electric motor's horsepower (or standard kilowatt equivalent), number of poles, and open or enclosed construction, with respect to which § 431.25 of 10 CFR Part 431 prescribes nominal full load efficiency standards.

MODELS ACTUALLY TESTED AND NOT PREVIOUSLY IDENTIFIED

Rating of electric motor			Basic model(s) (model number(s))	Nominal full load efficiency
Motor power output (e.g. 1 hp or .75 kW)	Number of poles	Open or enclosed motor		
Etc.	Etc.	Etc.	Etc.	Etc.

Subpart C—Commercial Refrigerators, Freezers and Refrigerator-Freezers

SOURCE: 70 FR 60414, Oct. 18, 2005, unless otherwise noted.

§ 431.61 Purpose and scope.

This subpart contains energy conservation requirements for commercial refrigerators, freezers and refrigerator-freezers, pursuant to Part C of Title III of the Energy Policy and Conservation Act, as amended, 42 U.S.C. 6311–6317.

§ 431.62 Definitions concerning commercial refrigerators, freezers and refrigerator-freezers.

Air-curtain angle means:

(1) For equipment without doors and without a discharge air grille or discharge air honeycomb, the angle between a vertical line extended down from the highest point on the manufacturer's recommended load limit line and the load limit line itself, when the equipment is viewed in cross-section; and

(2) For all other equipment without doors, the angle formed between a vertical line and the straight line drawn by connecting the point at the inside edge of the discharge air opening with the point at the inside edge of the return air opening, when the equipment is viewed in cross-section.

Basic model means, with respect to commercial refrigerators, freezers, and refrigerator-freezers, all units of a given type of commercial refrigerator, freezer, or refrigerator-freezer (or class thereof) manufactured by one manufacturer that have the same primary energy source, which have electrical characteristics that are essentially identical, and which do not have any differing electrical, physical, or functional characteristics that affect energy consumption.

Commercial refrigerator, freezer, and refrigerator-freezer means refrigeration equipment that—

(1) Is not a consumer product (as defined in § 430.2 of part 430);

(2) Is not designed and marketed exclusively for medical, scientific, or research purposes;

(3) Operates at a chilled, frozen, combination chilled and frozen, or variable temperature;

(4) Displays or stores merchandise and other perishable materials horizontally, semi-vertically, or vertically;

(5) Has transparent or solid doors, sliding or hinged doors, a combination of hinged, sliding, transparent, or solid doors, or no doors;

(6) Is designed for pull-down temperature applications or holding temperature applications; and

(7) Is connected to a self-contained condensing unit or to a remote condensing unit.

Commercial hybrid refrigerator, freezer, and refrigerator-freezer means a commercial refrigerator, freezer, or refrigerator-freezer that has two or more chilled and/or frozen compartments that are:

(1) In two or more different equipment families,

(2) Contained in one cabinet, and

(3) Sold as a single unit.